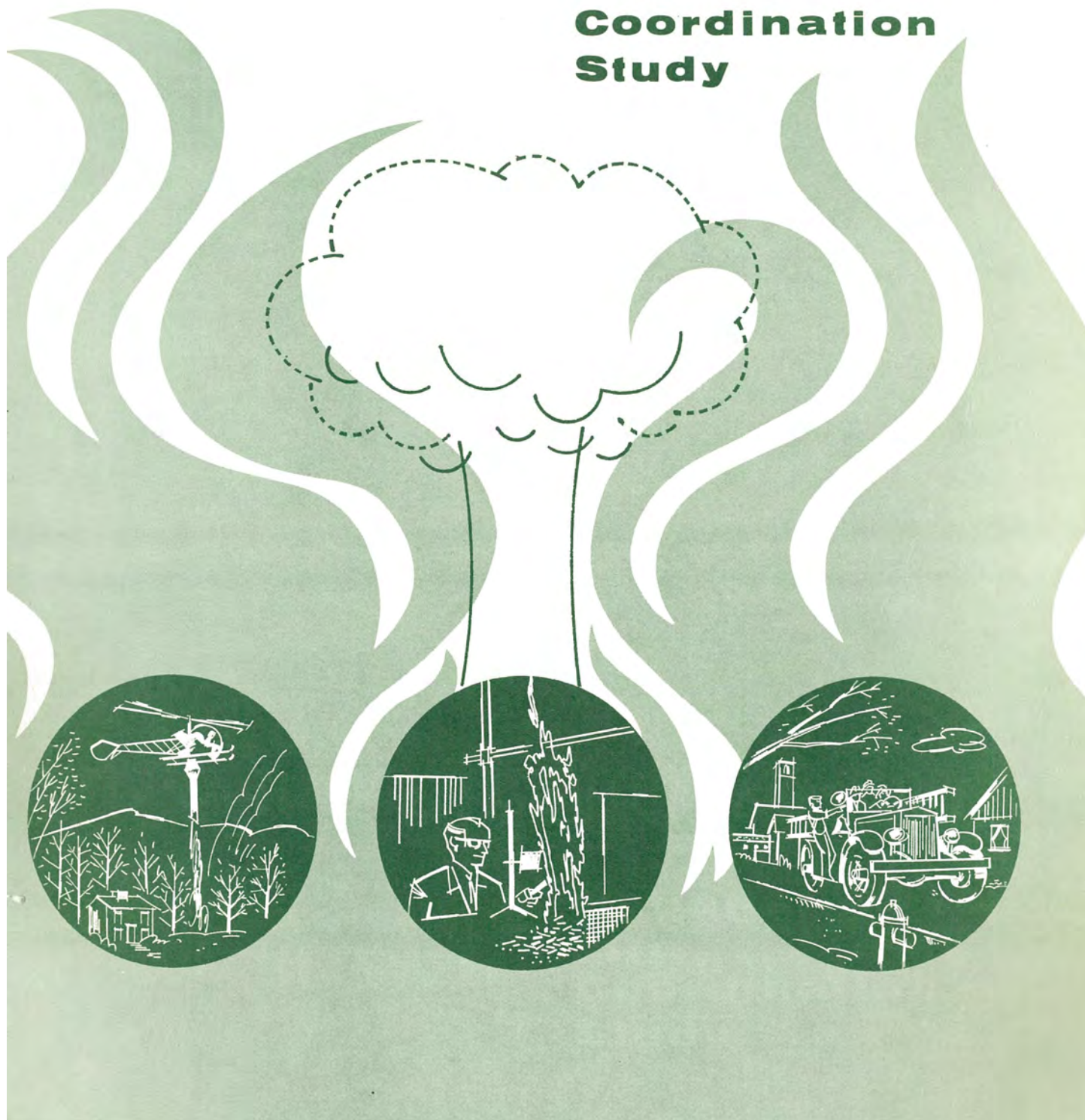


Washington, D.C.

METROPOLITAN AREA MUTUAL AID STUDY



National Fire Coordination Study



WASHINGTON, D. C. METROPOLITAN AREA
MUTUAL AID STUDY

Analysis and Study

by

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I. INTRODUCTION

In July 1964, the Forest Service began a Nation Fire Coordination Study for the Office of Civil Defense, Office of the Secretary of the Army. That study is to recommend how existing fire capabilities, from all jurisdictions, can be most effectively joined to cope with the fire problem in nuclear war. The ability to cope with such fires could be closely related to the ability of the United States to survive as a Nation.

More information was needed about how the fire services work together during emergencies, how they plan and execute mutual aid, how they assign command, and how peacetime fire operations are, or can be, integrated with Civil Defense.

The Washington, D.C. metropolitan area is one of five areas in which mutual aid and command arrangements were studied.

Objectives of the Washington, D.C. Mutual Aid Study are to:

1. Identify, describe, and explain the working of the mutual aid and command system.
2. Identify and describe mutual aid and command arrangements that are especially successful.

3. Identify, describe, and explain the most promising areas where the application of effort will achieve a nationally coordinated system capable of lessening the nuclear fire threat.
4. Identify and explain trouble areas to be avoided or corrected in future planning for the nuclear fire problem.
5. Analyze the data and develop conclusions and recommendations that are pertinent to the National Fire Coordination Study.

II. AREA DESCRIPTION

A. STUDY UNITS AND POPULATIONS

Included in this study are the following cities and counties:

<u>Unit</u>	<u>Area (Square Miles)</u>	<u>Population 1960</u>
Arlington County, Virginia	24	163,401
Fairfax County, Virginia	414	275,002
Loudoun County, Virginia	517	24,549
Prince William County, Va. (part)	347	50,164
Montgomery County, Maryland	493	340,928
Prince Georges' County, Md.	486	357,395
City of Alexandria, Virginia	15	91,023
District of Columbia	<u>61</u>	<u>763,956</u>
Total	2,357	2,066,418

The World Book Atlas estimated that 2,001,897 people lived within the metropolitan Washington, D.C. area at the time of the 1960 census. The population has increased considerably in the past four years.

By deducting Loudoun and Prince William counties, the area drops to 1493 square miles and 1,991,705 people for an average population of 1,335 per square mile (2.1 persons per acre). Within the metropolitan area can be found 1.1 percent of the U. S. population or less than one-half of one-tenth of a percent of the mainland area of the U. S. The study area can be defined as the area within a 30 mile airline radius of the Capitol. (See Figure 1.)

B. GOVERNMENT

Two states, six counties, one city, and the District of Columbia are involved in the study area. These are described in Table 1.

Table 1 - Types of Government

State	County	Voters Elect	Which Appoints As Chief Administrator
Maryland	Prince George's	Board of County Commissioners	Chairman, Board of County Commissioners
Maryland	Montgomery	County Council	County Manager
Virginia	Arlington	County Board	County Manager
Virginia	Fairfax	Board of County Supervisors	County Executive
District of Columbia		The President & the Congress appoint a Board of Commissioners	President of the Board of Commissioners

C. TRANSPORTATION

Within this area is a maze of expressway-type highways circling and converging upon Washington, D.C. There are many cloverleaf interchanges and bridges. The most notable waterway is the Potomac River. Also included are the two major civilian air terminals, Dulles International and Washington National. Union Station is the main railway center. Traffic is heavy and continuous during the morning hours when people are going to work and likewise when they are returning home. At other times it is generally fast paced.

D. HOUSING AND WORK FACILITIES

Housing conditions from the very plush to the lowest slum can be found throughout the area. A rapidly expanding housing program, including many high-rise apartments and office buildings, has taken place since World War II. Construction has removed some slum area buildings, but in general the increase has been in previously undeveloped areas. Washington, being a very old and an ever expanding city, has types of construction running the spectrum of the building trades.

III. CONDUCT OF THE STUDY

The primary means of data collection was by personal interview with knowledgeable people in the fire services and Civil Defense. Interviews were supplemented with information obtained in annual reports of counties and fire departments, training plans, etc. The interviews varied in length from about three-quarters of an hour to two hours. Some repeat contacts were made.

A list of persons contacted is included in Exhibit A of the Appendix.

IV. ANALYSIS

A. BACKGROUND

The tradition of volunteer firefighters, dating back to George Washington's time, is well rooted in this area. Consequently, the fire services over the years have evolved in different ways. In the area can be found fully paid departments, partially paid or combination departments, and fully volunteer departments. Keeping in mind the above distinction will help to clarify the items as they are discussed.

The individual county or city arrangements are as shown in Table 2.

B. PRE-EMERGENCY PLANNING

1. Informal Planning

A considerable amount of pre-emergency planning has been done, but practically all of it is the informal verbal understanding. The verbal agreements appear to be working well for the normal fire load. All departments contacted stated that they would go into another state within the metropolitan area if, and when, needed. Many have done so.

Table 2

FIRE SERVICE ORGANIZATIONS										
UNIT	Is There an Overall Chief	Is he full- time paid	Is the Unit Fully Paid	Are Paid Men in each Co.	How many Volunteers	Total Manpower	Percent Paid	No. of Companies	Number of Station Houses	Ratio of paid employees to population protected
Arlington County, Va.(*)	Yes	Yes	No-199 Paid	Yes-from 8-21	562	761	26	10	10	1-821
City of Alexandria, Va.(**)	Yes	Yes	Yes-167 Paid	Yes	None	167	100	11 (7 engine 4 trucks)	7	1-545
Fairfax County, Va.(***)	No - The 20 Volunteer chiefs are elected.	No	No - 101 Paid	Yes-from 2-7	1533	1634	6	20	-	1-2722
Montgomery County, Md.	No - The 16 companies elect their own chiefs.	No - Four chiefs are paid.	No -285 Paid. Only two compan- ies fully paid.	Yes	1445	1730	16	24	16	
Prince George's Co., Md.	No - The 35 volun- teer companies elect their own chief.	No - Only one paid chief.	No- 55 Paid.	No	1845	1900	3	35	38	
Washington, D. C.	Yes	Yes	Yes- 1415	Yes	None	1415	100	53	36	

REMARKS: (*) Two companies do not have volunteers

(**) An 8th company is planned.

(***) In 1963 the position of Administrative Officer for the fire services was established. He must work through a Fire Commission (a fire-fighting member from each magisterial district). He has no fireground authority.

Insurance coverage for firemen is apparently sound in all units except that Washington, D.C. does not carry insurance.

Existing informal mutual aid arrangements have developed on a need basis over the years. As fires occurred that exceeded a units' capabilities, other neighboring areas were called upon for help, and generally the help was given.

Through their associations, fire department people discussed their needs and agreed that if fires occurred in certain areas they would help each other.

It should be pointed out that firemen are not hesitant about responding to any fire call and this is perhaps a reason that the mutual aid system has worked out so well for the past and present.

2. Formal Planning

About twelve years ago the metropolitan fire chiefs started to write a mutual aid agreement but ran into difficulties when it was found Washington, D.C., could not legally enter into such an agreement. The matter

was left on an informal basis, but now that Washington, D.C., has been given the authority they plan to sign a new agreement this year. Such a pact would be an inter-city, inter-county, and inter-state agreement.

The Metropolitan Area Council of Fire Chiefs ties the metropolitan area fire services together. A copy of their By-laws is included in the Reference File. This group has authority to make plans and take action.

Two written agreements were found. Copies are in the Reference File. These, however, were made between units inside the study area with units outside the study area.

Members of some fire services feel that signed agreements would lead to misinterpretation and controversy. They feel satisfied with the present informal arrangement. One individual stated that in many cases volunteer companies are chartered as independent organizations and own their own equipment and buildings. Therefore, while it may never happen, they could refuse to go to a particular fire. This observation was based on the feeling, "how can you really control volunteers?"

In Montgomery County are three organizations which have been mainly responsible for development of present Mutual Aid Arrangements. One is the County Association of Fire Departments, with two delegates from each department. Another is the County Fire Board, with one delegate from each department in the County. This County Fire Board advises the County Manager. The third organization is the Metropolitan Area Council of Fire Chiefs, which has authority to make and recommend plans and actions.

Mutual Aid Arrangements are designed for the usual emergency of one-shift duration and what is defined elsewhere as "level two" fire situation. It goes this far and no farther. When about three or four neighboring fire departments reach the limit of their resources and manpower, there is no arrangement for coordination of effort and assignment of priority. No method or statement of philosophy exists that would sacrifice some values in order to save others. There is no statement of criteria for key facilities, such as for survival and recovery of people, food and medical supplies, and shelter. Designation of key areas that should be protected during the "first hour" has not been made. There is no provision for protection of food and water from contamination.

Mutual Aid Arrangements provide for assistance to fire departments in Federal installations in the area. It has been found that not much aid can be expected from Federal fire departments. Some private fire services are of about the same nature. These Federal and private fire departments are not considered to be important in the over-all protection system.

3. Levels of Emergency Planning

This is difficult to define. When dealing with fully paid companies, it may mean mutual aid is needed when other companies have been moved up to the point where they are becoming over extended in their home territories. It may also take the form of two adjoining volunteer companies helping each other or for one company to go into another's area because it is closer. In general, mutual aid is requested when the fire services of a city or county can no longer cope with the situation without asking neighbors for at least back-up help. The decision to request aid rests with the chief.

In Montgomery County a call card system or alarm-box card system is used. Each fire department dispatcher has a card for each alarm-box location. In areas where there are no alarm boxes, phantom-box cards are made. This card shows the types and numbers of pieces of equipment and manpower that are to respond to first, second, third, and fourth alarm fires. It specifies the company by number that will respond. This company may be from a department other than that where the fire occurred. This arrangement is based on accessibility and is agreed upon in advance.

In the opinion of the analysts, the range of conditions or level of emergency can be described as follows:

- Level 1. The every-day fire which may or may not be bad, which may or may not be confined to one building; but is handled by the above dispatching system as planned.
- Level 2. The serious emergency which exceeds the efforts of any one fire department, but with Mutual Aid from neighbors is brought under control. Such a fire would not exceed two shifts. An example would be the Miami fires in August 1964, caused by the hurricane.

Level 3. A fire situation so extensive that all fire departments within reach are spent beyond their ability and cannot effect control. Such past fires in urban areas have burned out within a period of five days. Such situations require definition of priorities, sacrifice of some values for the protection of others, and the coordination of rescue and suppression effort.

4. Mutual Aid Boundaries

As mentioned previously the member fire services will go to the aid of one another regardless of the State lines in normal situations. One problem needing a solution is whether they would be so free during a CD emergency involving the metropolitan area.

5. Selection of a Commander

There appears to be no plan to select an overall commander of fires at any level of mutual aid for less than emergencies requiring a Civil Defense mobilization. The stated views of the fire services are that incoming units will work under the direction of the receiving units. When Civil Defense is brought into the picture, it changes somewhat but basically still leaves the local fire officer in command.

As an example, examine the Arlington County, Virginia, Fire Department. During normal operations the Chief reports directly to the County Manager. During a Civil Defense emergency he would serve on the staff of the CD Director (the County Manager) and still advise and direct fire and rescue operations.

In Fairfax County, Virginia, the volunteer fire departments normally are dispatched through a Central Fire Control Center. During a CD emergency, the President of the Fire Commission advises the CD Coordinator on fire and rescue operations.

In Montgomery County, Maryland, there is no overall Chief but during a Civil Defense emergency a Chief, Fire and Rescue Services, who is a civilian appointee, is brought in to head the fire service.

State operational plans for Rural Fire Defense spell out who are the commanders under Civil Defense action.

In Maryland the state CD official for fire is the State Fire Marshal.

6. Command Staff

For the normal mutual aid situation, there appears to be no provision for the selection of a command staff; the receiving chief has or develops his own. CD plans do spell out the overhead command at the command post level but it appears the actual carrying out of plans still rests in the local chiefs.

The command staff jobs are described somewhat in the CD plans. As an example, Annex K, Fire and Rescue Service of the Montgomery County CD Plan is attached to the Appendix under Section C, reference material.

7. Command Operation

On the normal mutual aid situation, command rests with the receiving chief unless he desires to turn command over to a more experienced person. In CD emergencies it is contemplated that command would function in the same manner, but that priority determination might be from a CD Center. Actual carrying out of tactics would still be by the local chief. This is based on the assumption that the Civil Defense Director and his staff perform a coordinating function.

8. Coordination Trigger

Coordination between fire organizations can be triggered in different ways. A local chief may ask for help in continually higher degrees until the local administrative officer asks the Governor to declare a disaster. The Governor may also declare a disaster of his own volition.

9. Plan Acceptance

Plan acceptance can best be described by saying that when a disaster occurs of such a size that the CD organization goes into effect there is no choice but to accept the plan. This is not to say that the present CD Plans are completely approved nor accepted by the fire services.

10. Plan Preparation

Plans are prepared by the fire services and CD. Plans for the usual mutual aid situations are generally made by the fire services. When the situation is such that the CD organization is required, CD working with the fire services, prepares the plan for overall coordination.

One fire chief outlined a possible coordination plan for the area. See Exhibit B. It has not been tested for acceptability, nor prepared in depth.

11. Plan Approval

a. By local governments

The CD plans are approved by the local governments.

b. By fire services

In some cases the fire services object to the CD plans because of the person who is put in command. They do not feel that some officials would be well versed in their duties and have the necessary knowledge of the situation. The fire services, however, have not come up with a plan of their own that would be acceptable.

C. TRAINING

There are several types of training.

1. Some joint training has been done but generally within political boundaries.
2. More and more men are being given staff and command level training. Such training is recognized by many fire services as an urgent need. Some authorities feel chiefs too often get on the nozzle, rather than coordinate efforts.
3. Volunteer firemen must complete a basic fireman's course within their first year to remain a volunteer.

4. Training in strategy and tactics varies considerably over the fire services due to their type of organization.
5. The majority of fire training is of the structural fire type. However, the Fire Extension Service at the University of Maryland has a Chapter in their Fireman's Basic Training Course entitled, "Fires in Natural Cover Fuels". This training is usually given by members of the State Department of Forests and Parks.
6. Some of the fire services contacted have sent men to shelter management courses. Overall, the amount was very small. More of this training is planned.
7. Evacuation of residents during a nuclear disaster has been abandoned as a policy in favor of quick fallout protection, utilizing shelters. There are still times when it may be necessary to evacuate residents. Some of the CD plans still contain evacuation planning. Training in evacuation is not given much emphasis.
8. Training is done by the fire services within their own units by request from the fire extension services and some by CD. It is generally believed that CD does not provide training to familiarize people with their proper functions in emergencies.

The amount of training varies greatly within units. The paid companies generally require daily training for a specified amount of time. In partially paid companies, the paid men generally are required to have some weekly training. The volunteers are hard to train because of their infrequent availability. Training records vary from practically none to very complete records. A universal system is not used.

In the paid companies it is required that individuals possess certain skills before advancing to higher authority. The volunteers often advance by election.

Some units have very good facilities available, including training towers and full time instructors. The Maryland Fire Extension Service has 70 part-time instructors scattered over the state who are paid salary and mileage as they teach. This distribution puts trainers nearby to any department wanting training sessions. This same service has an extension staff and command training outline with various types of problems and solutions. This plan was not reviewed.

All Maryland fire departments train from the same standard training manual.

An opinion was expressed that OCD should really be the leader in staff and command training since it would be during CD emergencies that qualified staff and command personnel would be most needed.

Most units have had training in radiological monitoring and a large number of instruments are available.

D. EMERGENCY OPERATING CENTERS AND CIVIL DEFENSE

The centers vary from no preparation or hardening to completely prepared and blast protected. Only two are known to be staffed continuously. Most are of a basement type and have some fallout protection. Generally, auxiliary power is provided and outside lines for telephones are available.

The costs of the structures are difficult to determine, since many are actually reconverted basements or were built as an integral part of the building with no separate cost breakdown available.

Montgomery County, Maryland, completed in 1963, a blast-proof, underground emergency operating center with one-half the construction costs paid from CD funds. (See the description in Exhibit D of the Appendix.) The county also has a prototype shelter project in the Rockinghorse Elementary school. This project, begun in 1962, will house 430 pupils for two weeks. CD paid \$90,000 of the \$171,000 cost.

The District of Columbia maintains an emergency operating center at Lorton , Va., that is staffed with nine full-time people. The center is partially underground (3 sides) and affords good fallout protection.

One official had misgivings about encouraging shelters in buildings. He stated that what makes a good shelter also causes firefighting problems due to lack of access. One person expressed the opinion that he could not see spending a lot of money on Civil Defense; they had gotten along fine in the past and any plans they would have made would necessarily have become out-dated. Furthermore, the county had saved money.

The Washington, D.C. metropolitan area is located within Region 2 of OCD. Tying together the metropolitan area is a Tri-State Committee of CD involving the Maryland State Director, the Washington, D.C. Director, and the Regional Deputy Coordinator for north central Virginia.

Several CD plans are included in the Appendix under Section C.

E. COMMUNICATIONS

For the most part, all units felt they were in good shape for normal mutual aid communications. However, in a real emergency they saw that weaknesses were apparent in numbers of radios and in the handling of traffic.

All participating fire services are now in the process of installing fire equipment on a separate mutual aid frequency (154.280 megacycle). Base stations will be maintained at dispatchers' offices that can contact any of the other units. To contact their own personnel they will still use their regularly assigned frequency.

Communications headquarters vary from the compact to very large. Generally, it involves light boards for the units, several radios and monitors, and recording machines. These centers are manned continuously.

Montgomery County, Maryland, operates full time from their emergency operating center which is blast hardened. This is the only blast hardened communication center. Exhibit C in the Appendix shows the Montgomery County radio network.

Practically all mobile running equipment has two-way radio. Generally, the station houses only have receivers. A large number of frequencies are used by the various fire services.

One forester for the Maryland Department of Forests and Waters utilizes a communications truck provided by volunteers who operate on a citizens band. He also has a radio in the truck on his service's frequency. During the April 1963, forest fires he made good use of the unit. The volunteers have about 100 of the hand sets and mobile sets in their cars. Crews on the fires were given a hand set and when the signal became too weak, a car was put in as a relay point. He thinks highly of their use.

A Washington Warning Area (WWA) covers the area within a 20 mile radius of the Capitol, excepting the part which extends into Howard and Anne Arundel counties. This signal would be activated from a mountain CD center in the event of an attack.

Fire reports are turned in as follows:

Arlington County, Va.

Report turned in to	
Individual	Fire Department
Company -----	Chiefs Office
	Central Dispatch
	Arlington, Va.,
	who dispatches
	from companies

Fairfax County, Va.

Report turned in to	
Individual	Central Fire Control (Fairfax)
Company -----	which dispatches from 19
	independent fire companies.

Montgomery County, Md.

Report turned in to	
Individual	Central Fire Alarm (Rockville)
Company -----	which dispatches from 16
	independent fire companies

Prince Georges' County, Md.

Report turned in to	
Individual	Fire Control Board (Hyattsville)
Company -----	which dispatches from 35
	independent fire companies

F. EQUIPMENT

Each fire service maintains a complete inventory at the dispatching center. There has not been an overall inventory of all equipment available in the metropolitan area, but there are plans to prepare an inventory this fall.

For the most part, equipment is believed to be adequate, but there are always times when units have wished they had another piece of this or that type of equipment. There appear to be no problems connected with mutual use of equipment. All units have the necessary adaptors. Unnecessary delays were experienced at times when the dispatcher sent structural fire equipment to suppress forest fires. It was also felt that some equipment was becoming too fancy and too heavy for off-paved road use. This is an important consideration in fighting forest fires.

The inventory, Table 3, shows the distribution of fire equipment.

TABLE 3

UNIT	NUMBER			
	LADDER TRUCKS	PUMPERS (GPM)		
		Up to 500	500-1000	1000 plus
Arlington	5	3	15	4
City of Alexandria	4	1	10	2
Fairfax	3	10	-----52-----	
Montgomery	6	-----71 all sizes-----		
Prince Georges'	14	24	67	22
Washington, D.C.	24	-	-	6

G. LOCATOR SYSTEMS

Most units rely on a light board to determine the status of equipment; however, some have a dog-tag arrangement. The systems can generally be classified as modern, with Montgomery County, Maryland, probably the most up to date. Skilled dispatchers, capable of operating the sophisticated systems, are required. All units are manned 24 hours.

Only Montgomery County, Maryland, operates normally from a hardened communications center. Arlington County Virginia has an emergency operating center that has some blast protection.

H. FUELS AND HAZARDS

All study areas have zoning plans that provide only limited information about fuels and hazards.

Each chief or captain appears to have good knowledge of what fuels he has in his area. Some of the training for firemen requires them to plot the layout of buildings and homes. No overall fuel type map could be found. Knowledge and training on fuels is primarily confined to fuels within buildings rather than with spread from building to building or block to block.

V. CONCLUSIONS

From this study it can be assumed and concluded that:

1. Civil Defense personnel in this area are capable and generally seem to understand their roles as coordinators rather than commanders. Individually and collectively they represent a tremendous store of talents needed to mold an effective Civil Defense for fire.
2. There is a hard core of capable professionals, full-time, career firemen throughout this metropolitan area.
3. The professional firemen in the area generally expressed a feeling of urgency and need for better training in command and coordination, better pre-emergency planning, and better mutual aid arrangements. Generally, they look to Civil Defense for help.
4. Staff and command training is one of the weakest links in this mutual aid situation.
5. Many volunteer companies have few, if any, paid firemen.
6. There is no evidence of pre-emergency attempts to organize and train the populace in controlling fires.

7. The practice of the fire chief retaining command within his jurisdiction during a mutual aid situation does not appear sound in all instances.
8. It is difficult for many chiefs to imagine a fire situation with which they could not cope; nuclear disaster excepted.
9. Generally, the fire services are prepared and capable of coordinating efforts up to the level of emergencies they have experienced. Planning and training is geared to this same level.
10. The elected volunteer chief probably is capable to command within his unit because of his personal popularity. As a non-professional with limited opportunities for training, he is not likely to be skilled in the coordination and command of a mutual-aid effort.
11. Autonomous fire services do not readily recognize nor accept command by someone other than their own choosing.
12. The department autonomy that causes problems in planning for mutual aid coordination is one of the great strengths of the fire services.

13. The metropolitan area is irrevocably tied together. It would not be practical for any separate political body to maintain a force large enough to handle all fire emergencies. Therefore, mutual aid will continue to be a way of life.
14. A single, joint mutual aid pact for the six fire jurisdictions would be less cumbersome and less involved than are the many individual agreements.
15. There is considerable support for perpetuation of the volunteer fire service. It costs less in tax funds. It is the hub of community social functions. There is emotional involvement with tradition.
16. Pre-emergency planning would be more meaningful if the numbers of men from volunteer companies were known. The total fire forces in areas where volunteers are used looks good on paper, but generally only a small percentage can be counted on.
17. Civil Defense plans are not well-understood by those not working constantly with them.
18. There are several government installations within the area that have firefighting capabilities, but the fire services generally believe they would not leave their areas to give aid to neighbors.

19. There is no evidence of effort to prepare urban fuel-type maps.
There is only occasional identification of special hazards, such as shelters. Present complete reliance on the knowledge of dispatchers and chiefs could be disastrous if they were not available.
20. The zoning laws and building codes do not require construction of fallout shelters.
21. Only one dispatch office in every-day use is blast hardened. Most of the alternate dispatching centers are only fallout protected.
22. The Rockville Emergency Operating Center appears to have the pattern for success. Designed for daily operation, it is staffed with skilled dispatchers who can readily expand for severe emergencies.
23. Within Montgomery County the fire department jurisdictional boundaries have been dissolved for operational purposes. The County dispatcher calls the fire companies and they respond on the basis of pre-arranged proximity and availability. This arrangement exceeds mutual aid and becomes centralization.

24. The communications system with the new mutual aid frequency is generally considered adequate by fire personnel. Like other elements of preparedness it is probably adequate for any emergency up to a level equal to emergencies experienced.
25. The Maryland Department of Forests and Parks is making effective use of citizens band radios to supplement regular radio communications for fire. The high incidence of instrument failure is apparently outweighed by the low cost and high portability.
26. Firemen have only limited pre-selected priority assignments such as the protection of shelters and corridors. Assignments now depend on communications.

VI. RECOMMENDATIONS

A. These recommendations concern problems that, if solved, would likely contribute to and strengthen fire activities, nationwide.

1. Staff and command training, to include training in the actual workings of mutual aid and command at all levels, should be conducted for fire managers. Several types of positions should be covered.
2. Training programs in each major fire unit, city, county, state, and district, should include realistic simulation of what the fire and damage situation would be like following a nuclear attack in their area.
3. Pre-emergency plans should assign command to the most competent fireman when a fire disaster occurs. Such a plan might include fire command qualification standards, pre-emergency training, and/or experience and qualification cards.
4. Plans should include suitable fuel-type maps, primarily for urban fuels.
5. Pre-emergency plans should include priority guidelines, key targets to protect, such as shelters, hospitals, and drinking water.

6. Pre-emergency plans should contain automatic assignments for fire services in the event communications are inoperative, and until command is established.
7. Although the communications system is good and appears adequate for normal emergency, it would become saturated at about three times the normal traffic load. A study of needs for a maximum situation may be needed.
8. Examine the role of the volunteer fire services. Are they able to provide the continuous professional leadership needed to cope with conflagrations that might extend from nuclear war?
9. Join the Civil Defense and fire services more closely by this action.
 - a. Establish a professional fire staff in Civil Defense.
 - b. Share in pre-emergency planning.
 - c. Share in the preparation of mutual-aid pacts.
 - d. Share in command and coordination training.
10. Protect key command and dispatch centers from fallout and blast.

B. These recommendations stem from strengths in the present system that can be adapted to a nationally-coordinated system.

1. Build mutual aid and command arrangements around normal jurisdictional boundaries; that is county, zone, state; Montgomery County is an example. Design a "make up" plan for emergency use.
2. The great strength of the autonomous fire department should be preserved and built upon in plans and arrangements for improved mutual aid.
3. The Tri-State mutual aid agreement between Maryland, north central Virginia, and the District of Columbia was learned about too late for inclusion in this study. Inasmuch as interstate pacts must be reviewed by the United States Congress, this pact will serve as a pattern.

VII. APPENDIX

Exhibit

- A List of Persons Interviewed
- B A Suggested Plan for Coordination of Mutual Aid as Suggested by an Experienced Chief
- C Montgomery County, Maryland, Communications Network
- D Description of the Underground Emergency Operating Center for Montgomery County
- E The following material is found in the sections listed in a reference file
 - Secion 1. Annual Reports - Governing Bodies
 - 2. Annual Reports - Fire Department
 - 3. Civil Defense Plans
 - 4. Maps
 - 5. Miscellaneous
 - 6. Mutual Aid Agreements
 - 7. Persons Interviewed
 - 8. Training Data

EXHIBIT A

PERSONS INTERVIEWED

(Interview Data can be found in
the reference material under
Section G.)

<u>Name</u>	<u>Title</u>	<u>Business Address</u>
1. Willis H. Burton, Jr.	Fire Services Admin. Fairfax County, Va.	Court House Bldg. Fairfax, Va.
2. Robert C. Byrus	Director, Maryland Fire Service Extension Dept.	Univ. of Maryland P.O. Box 85 College Park, Md.
3. Joseph H. Clements	Chief, Arlington County Fire Department	1020 North Hudson Arlington, Va.
4. H. A. Galotta	Chief, District of Columbia Fire Department	300 McMillon Drive Washington, D. C.
5. David B. Gratz	Chief, Silver Spring Fire Department Montgomery Co., Md.	1941 Seminary Rd. Box 135 Silver Spring, Md.
6. G. Roy Hartwig	Deputy Director of CD Montgomery Co., Md.	County Office Bldg. Rockville, Maryland
7. Bert W. Johnson	County Manager (CD Director) Arlington Co., Va.	Room 204, Arlington County Courthouse Courthouse Road Arlington, Va.
8. Carleton C. Massey	County Executive (CD Director) Fairfax County, Va.	Room 240, Courthouse Fairfax, Virginia
9. Melvin E. McBride	Deputy Dir. of CD Washington, D. C.	Office of Civil Defense 4820 Howard St., NW Washington, D. C.
10. Bernard J. Padgett	Chief, City of Alexandria Va. Fire Department	Alexandria, Virginia

- | | | | |
|-----|-------------------------|--|---|
| 11. | James C. Robertson | State Fire Marshall
(Maryland) | State Office Bldg.
Room 805
301 W. Preston St.
Baltimore, Md. 21201 |
| 12. | Henry W. Schlosser, Jr. | Forest Supervisor | Dept. of Forests &
Parks
Laurel, Maryland |
| 7a. | L. J. Stocker | Civil Defense Coordinator
Arlington County, Va. | Room 310, Arlington
County Courthouse
Courthouse Road
Arlington, Va. |
| 13. | Lawrence R. Woltz | Fire Marshall,
Prince Georges' Co.
Maryland | County Service Bldg.
5012 Rhode Island Ave.
Hyattsville, Md. |

EXHIBIT B

A SUGGESTED PLAN FOR COORDINATION OF MUTUAL AID AS SUGGESTED BY AN EXPERIENCED FIRE CHIEF

Chief David Gratz of Silver Spring, Maryland, has given much thought and study for the need of coordinated effort by fire services in times of mass fire emergency. His suggested plan is outlined below from notes taken by the analyst during discussions.

The plan would be prepared prior to the emergency. It would describe and identify the elements of what, when, who, and how. It would be sufficiently specific and detailed, to provide operational guidance to professional fire men. It would have the approval of appropriate governing bodies, at the necessary level.

Each of the six political sub-divisions would be represented by a fire chief or his alternate.

Prior to the emergency the six chiefs would select one of their number to be coordinating chief for a stated period, such as one year.

Any one of the chiefs could suggest when the emergency exists and could request the coordinating chief to activate the coordination plan. Activation would be almost automatic as the designated officers went to their positions and performed the tasks described in the plan as assigned by the coordinating chief.

The top staff is made up of the other five chiefs. They fill definite positions that might be described as service, plan, line, finance, safety, and liaison.

The plan would contain job descriptions for each top staff position and for subordinate positions as needed.

There would be organization charts to show the positions to fill, and lines of authority and responsibility. For example, the service chief would service the firefighters, not the civilian population. He might supervise among others, the equipment officer and communication officer. The plans chief might supervise the intelligence and records unit.

The plan would contain guidelines for the determination of priorities.

Strategy and priority decisions would be made by the coordinating chief after he had been furnished the facts by, and had counselled with his staff.

EXHIBIT C

MONTGOMERY COUNTY, MARYLAND COMMUNICATIONS

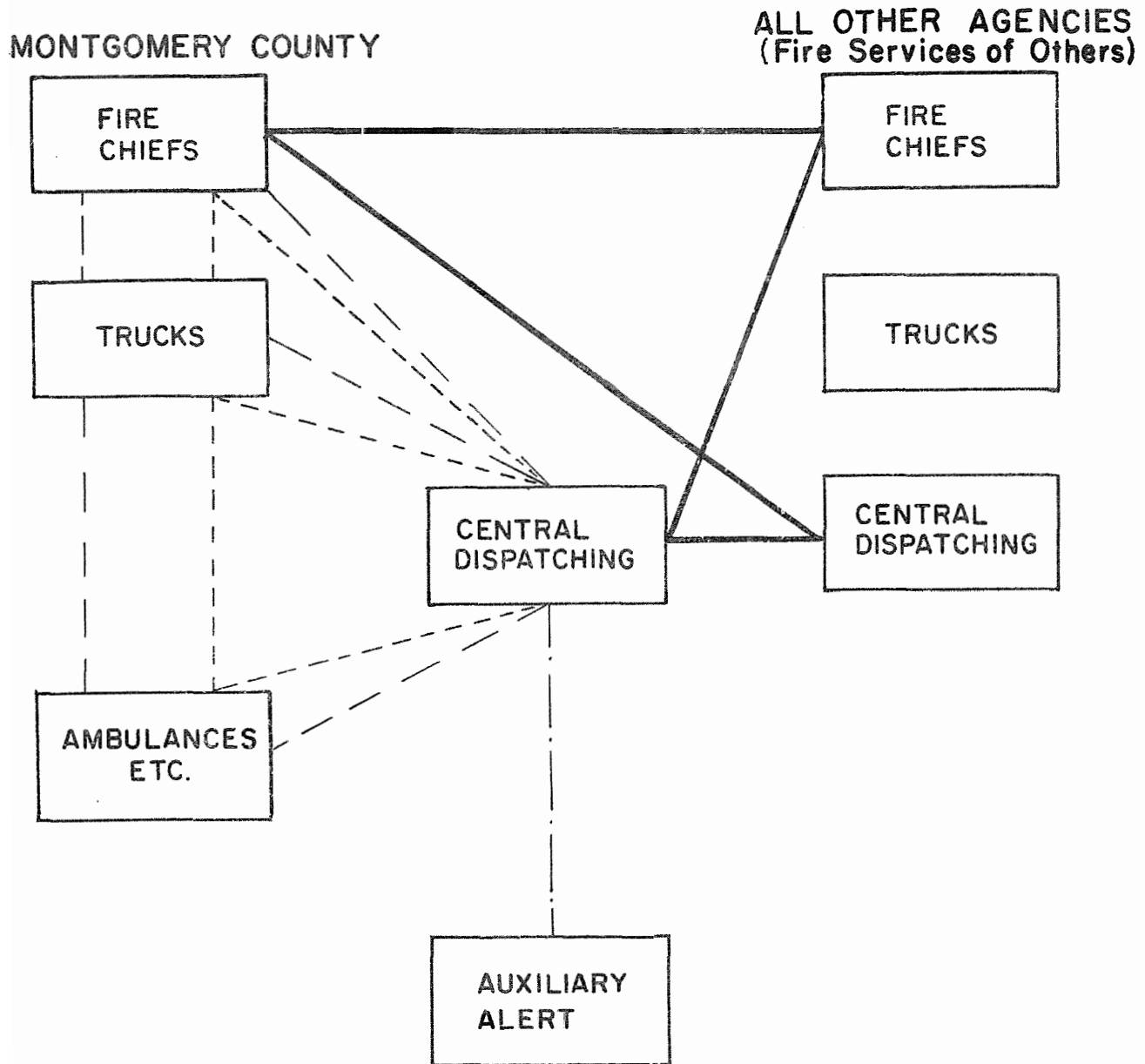
<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>USE</u>
1	153.950	EMERGENCY APPARATUS Mobile (144 units)
2	154.160	Dispatching, Chiefs, Trucks
3	154.280	MUTUAL AID District of Columbia Arlington, County, Va. Alexandria, Va. Fairfax County, Va. Montgomery County, Maryland Prince Georges' County, Md.
4	33.78	AUXILLARY ALERT Home and miscellaneous Field Units

Note: The other five units in the metropolitan area operate the same way.

EXHIBIT C

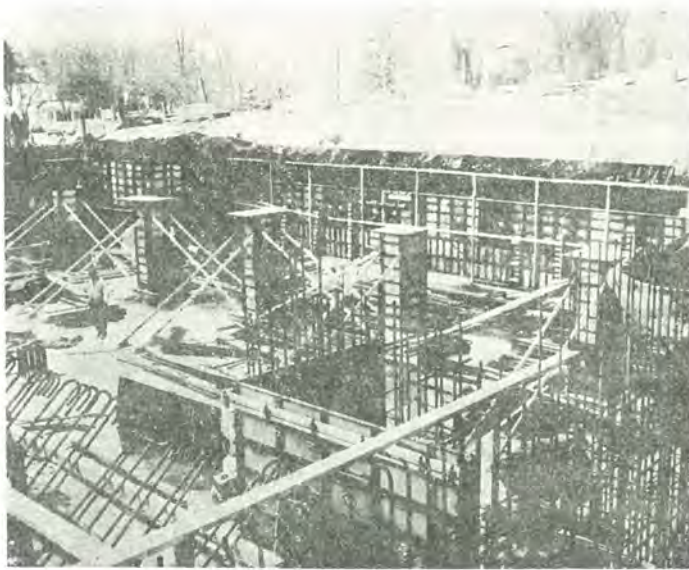
WASH. D.C. M-A STUDY

MONTGOMERY COUNTY, MD. RADIO NETWORK



LEGEND	
CHANNEL	CODE
1	----
2	----
3	=====
4	----

EXHIBIT D



NEW UNDERGROUND EMERGENCY OPERATING CENTER FOR MONTGOMERY COUNTY, MARYLAND

On July 8, 1964, the Montgomery County Council held dedication ceremonies for the new elaborate underground Emergency Operating Center Rockville, Md. RSVP invitations were sent out from Mason A. Butcher, County Manager.

The Emergency Operating Center (EOC) is an underground steel and concrete structure designed to provide continuing service to county residents in time of nuclear attack. In addition, the center is the daily communications hub for public safety and public works emergency operations. Incorporated in the EOC is equipment specially designed to meet new survival and communications concepts.

Cost of the EOC, plus new communications facilities throughout the county totaled more than \$1,100,000. Federal Civil Defense Matching Funds financed part of this amount.

County officials directly concerned with the operation and maintenance of the EOC include:

John A. Floyd, president, county Council; M. A. Butcher, County Manager and Director of Public Safety; James S. McAuliffe, Superintendent of Police; G. Roy Hartwig, USN, (Ret.), Deputy Director of Civil Defense; Joseph C. Kordel-

la, Director of the Department of Public Works; Lee O. Falwell, Chief, Division of Communications.

Participating Firms: Architects—Donald N. Coupard and Associates, Bethesda, Md.; Consulting Communications Engineers—Gautney and Jones, Washington, D. C.; General Contractor—Thomas W. Yoder, Rockville, Md.; Telephone System—Chesapeake and Potomac Telephone Company.

Public Works, School Board Communications Centrally Coordinated In Emergencies

Centralized control of radio communications during natural and man-made disasters is enabling fast and efficient coordination of emergency operations in Montgomery County, Md.

Included in the county's new Emergency Operating Center (EOC) are dispatching facilities for the public works department and county board of education. Also contained in the EOC are regular police and fire communications control equipment for both emergency and everyday radio operations.

This use of the new disaster communications center in the EOC enables the Department of Public

Works to immediately centralize supervision of emergency work. For example, the new control facilities are used during snow and ice storms to efficiently organize and quickly dispatch work crews to areas most severely affected by the storms.

Also, before and during daytime storms, the communications center equipment is used to alert school principals and other board of education employees. If the storm occurs at night, the school superintendent keeps abreast of changing road conditions radioed in by crews. Should conditions become severe, school activities for the day are cancelled.

For both the public works and school board communications systems, the EOC is simply a centrally located position from which existing radio networks are controlled. When the EOC is fully manned under nuclear attack or other emergency condition, the P. W. director assumes the role of Director of Transportation in command of all public works vehicles and school board transportation facilities.

Equipment in the public works network includes existing control and new base stations in the EOC and existing control stations in public works depots in Silver Spring, Rockville and Gaithersburg. One hundred public works maintenance and service vehicles are equipped with older tube-type mobile radios in a 450 megacycle mobile relay network with tone selected automatic repeaters at Damascus and Bethesda. In addition, 18 inspectors' cars are equipped with new extensively transistorized radios operating on a newly assigned channel in the 150 megacycle band with a new base station in the EOC.

In the school board system, one new control station and one base station are located in the EOC, while a second existing base station is installed in Gaithersburg. Control of both base stations is also established through use of an existing control facility at the school board Lincoln Center in Rockville.

Also tied into the school system are 165 selectively called monitor receivers, located in 146 school and headquarters offices. Pushbutton alerting facilities at the Lincoln Center and EOC control points enable individual selection of monitor receivers, entire group alarm, elementary school alert and secondary school alarm.

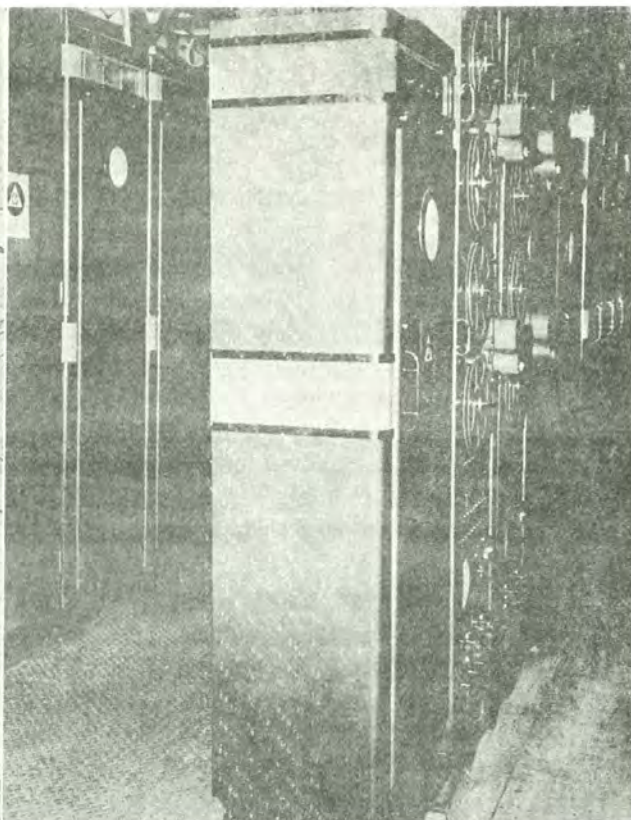
(Continued on page 149)

Pictorially and editorially best in the field!

141



Montgomery County, Rockville, Md., microwave radio relay equipment and VHF two-way radio stations used by police and fire systems are housed in small building below water tank. Tower alongside supports antenna for VHF radio transmission and reception.



Two-way radio base stations, tape recorders and microwave radio relay equipment, located in a single room in Emergency Operation Center, mounted on a special spring supported metal floor designed to withstand effects of nuclear shock waves.

Emergency Operating Center

(Continued from page 141)
New Communications Facilities
Increase Montgomery County
Fire Protection Service

An elaborate combination of recently completed centralized control facilities, additional radio frequencies and a single county-wide fire-rescue telephone number is increasing the efficiency of fire protection service in Montgomery County, Md.

The new communications arrangements not only enable residents to call for assistance easier and faster but also speed up response to emergencies by county fire and rescue companies. "Fast reaction to the 25,000 calls we expect to receive this year is vital if we are to save lives and prevent property damage," County Manager M. A. Butcher, said.

Highlight of the "new look" in the county's fire protection service is the operation of a Central Fire and Rescue Alarm Dispatch-

ing Room in the underground Emergency Operating Center (EOC) recently completed in Rockville, Md.

Heart of the new communications arrangement, are two large master consoles connected by a smaller desk sized alert and control facility. Mounted above one console is a status board displaying the operational condition of 166 radio equipped fire vehicles. Switches controlling this display board as well as pushbutton fire alerting equipment are installed in the center facility.

Built into each console is a complete telephone switchboard as well as pushbutton controls for permanently installed radio equipment. Base stations connected by wireline to the consoles are located in the EOC and at Gaithersburg and Bethesda. A fourth station is operated through a 14-mile microwave radio relay link between the EOC and the station location in

Damascus, Md.

Extensively transistorized mobile radios are installed in 166 fire and rescue vehicles ranging from fire engines and ambulances to chief cars and utility pickup trucks. Each company is also equipped with 35-ounce fully transistorized portable radios for on-scene coordination of firefighting activities by officers in charge.

The mobile radios operate on the three new VHF frequencies in the 150 mc band assigned to the county. One channel is used for dispatching vehicles to fire and emergency sites, while a second frequency is utilized primarily for at-the-scene communications. The third frequency is being used for mutual aid communications with other fire departments in the Washington metropolitan area, and counties surrounding Montgomery County.

Dispatchers spring into action whenever the central emergency fire number of 424-3111 is dialed anywhere in the county. Incoming calls are answered by one dispatcher while the second stands by to

(Continued on page 150)

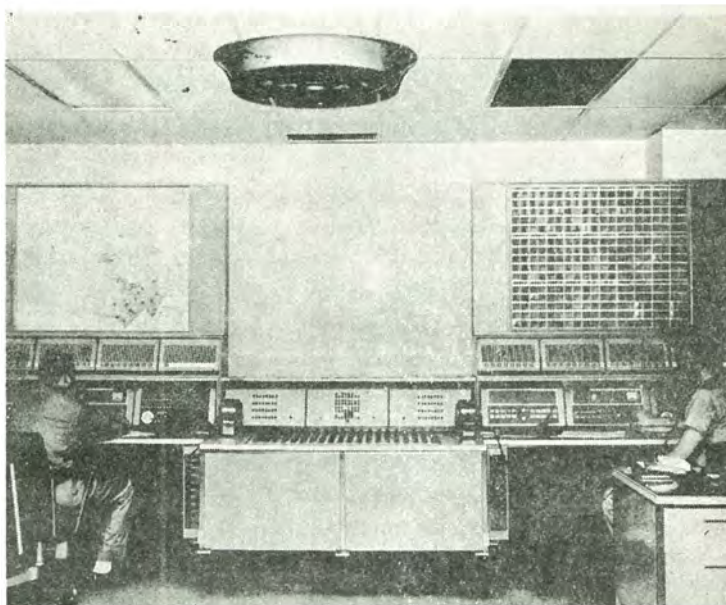
Emergency Operating Center

(Continued from page 149)
help or handle other incoming calls.

Upon receiving an emergency call, the dispatcher jots down the nature and address of the emergency on a data processing card and refers to his box cards for assignment of the call to the proper companies. To sound the alert at the desired fire stations, either the dispatcher or his supervisor depress special tone signaling buttons on the center facility between the consoles. Almost simultaneously, telephone contact is established with the fire houses.

Acknowledgement of the alert by radio or telephone then enables the dispatcher to relay pertinent information concerning the call. Additional information about the call is completed on the data processing card. After being time stamped, the card is inserted into a slot above the console, turning on the companies' numbered lights on the

(Continued on page 151)



Central Fire Alarm Dispatching Room shows two consoles and interconnecting desk coordinating fire communications through Montgomery County. Left-console map dividing the county into districts. On the right console display board of 300 lights showing status of all radio equipped fire vehicles in the county.

NOW...Fyrepel offers you complete heat protection with the all new 9148

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The 9148 snaps quickly and easily on to the brim of any fire helmet—gives excellent radiant heat protection to face, neck, chest and shoulders. Breathing apparatus can be worn beneath hood. The face piece, frame and drape are all detachable for easy part replacement.

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NEWARK, O.



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- Dura-Lite nylon 50-Star U.S. Flags
- Best outdoor material
- Fire-resistant, mildew and moth-resistant
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3 x 5' — \$14.00
(flag only)

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STANDS — POLES — ORNAMENTS

FIRE DEPARTMENT FLAGS

(Reading correctly, both sides) Embroidered
Insigna and letter, **\$310⁰⁰** (Approx)
Fringed, 4 1/2 x 5 1/2

LEAD BANNERS

2 1/2 x 8' for parades **\$235⁰⁰** (Approx)
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Send sketch showing lettering shape and design
and material for quotation on these.
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Emergency Operating Center. To sound an alarm, he simply depresses buttons of the desired companies on center panel in front, then pushes down alert switch to send out coded tone signals to the fire stations. Switch knobs on the table are manually turned to activate multi-color lights on vehicle display board above.



On way to emergency call, fireman-driver uses his radio to acknowledge information relayed by the fire dispatcher in the new Emergency Operation Center. Alerting firemen of emergencies in their district, is handled by supervisor of Central Fire Alarm room,

map. Those vehicles rolling out of the fire stations and reported "on-the-air" by drivers are shown on the display board in a red light condition.

The first vehicle at the reported emergency site radios back his findings or observations at the scene and requests use of additional equipment if necessary. Extra men and vehicles are then alerted by the central dispatcher or unnecessary equipment is returned to quarters.

At the fire, the officer in charge carries the portable radio to coordinate the activities of radio equipped vehicles and other persons also using portable units.

After the fire is reported out, the condition of the vehicles at the scene is changed to green on the display board. The data processing card also is removed from its slot, turning off the numbered lights of the companies at the fire. The card is time stamped and filed for reference.

Use of the new control arrangements plus the single county-wide

telephone number for fire calls reduces the time between reception of the fire call and initial alert of a fire company to approximately ten seconds, according to Butcher.

"Before control of fire communications was maintained through two fire boards, one in the southern part of the county, the other in the northern section," he said. "However, as many as 11 telephone numbers could be used to call for fire assistance and in some cases, contact with the wrong board lost vital minutes while information was relayed to the other board," he said.

"Expansion to four-frequency operation has insured the safety of firefighting response and on-scene activities," Butcher said. "For example, simultaneous operations at several sites would sometimes tie up the single radio channel. Now, of course, contact with drivers of radio equipped trucks on any of the three frequencies is instant," he said.

One feature of particular interest is the one-minute playback tape re-

corder. Use of this equipment enables a dispatcher unsure of information reported to him by an excited or upset citizen to play back the last 60 seconds of the call. By providing this service, the playback recorder saves valuable time and insures vehicles are routed to correct addresses.

Immediate determination of vehicles available for service is another feature designed to speed up response or reassignment of equipment to emergency calls. A quick glance at the map and the vehicle display board informs the dispatchers which pieces of equipment are ready for assignment. In addition to the red and green status lights, a yellow light behind the vehicle number indicates the truck or car is out of service—out of the county or in a maintenance shop for repair. Lights out show the vehicle in the fire house and ready for assignment.

Letters on the Vehicle Status Board represent the following types of vehicles:

(Continued on page 152)

EMERGENCY OPERATING CENTER

The elaborate underground blast and bombproof Emergency Operating Center (EOC) combines civil defense preparation for nuclear attack with day-to-day public safety communications.

The unique center will enable the county government to continue its services throughout and after a nuclear attack.

(Montgomery County covers a 521 square mile area north and west of Washington, D. C., and has 375,000 residents, most of whom

live in the lower half of the county. Named after Revolutionary War General Richard Montgomery, the county was established in 1776 and its government functioned under a County Commissioner system. However, in 1948, this was changed to the present Council-manager arrangement in which an elected seven-member council acts on legislative and executive matters and also appoints a county Manager to handle the day-to-day administration of county affairs.)

The Emergency Operating Center is less than 20 miles from downtown Washington, and is connected by an underground stairway to the County Office Building in Rockville, the county seat. Encased in 39-inch thick ceiling and 14-inch thick walls, the EOC consists of a central civil defense planning and control room, public works emergency area and police and fire dispatch rooms. Several additional offices are used for administrative work while others contain radio, telephone and microwave equipment, food supplies, mechanical equipment including air conditioning facilities, water storage tanks, three fresh water wells and a power generator.

Capable of shielding its interior from intense nuclear radiation as well as heat and shock waves, the center is designed to permit a working staff of 75 persons to perform their duties without replenishment of supplies for 30 days. Power for the heat, light, communications and air systems can be furnished by a large generating plant within the building, while emergency rations are stored on bunks.

Total cost of the EOC and new communications equipment throughout the county was more than \$1,000,000.

Communications facilities in the center include both two-way radio equipment with the telephones provided by the Chesapeake and Potomac Telephone Company. Overseeing the operation of the equipment is Lee O. Falwell, Chief of the County Communications Division.

The county-wide police and fire systems are operated around the clock, seven days a week.

The 15 "Dispatcher" radios are used on motorcycles and operate

on two channels. Four two-channel portable radios are also used for special operations and by canine patrolmen.

In daily operations, patrolmen radio the center when they go on duty. Dispatchers then manually switch on the numbered lamps corresponding to numbers assigned to vehicles, providing a visual record of all cars on duty.

Citizen complaints received by telephone clerks are immediately recorded on IBM cards which are relayed to radio dispatchers by means of a high speed conveyor system. The calls are then radioed to patrol cars closest to the citizens. When cars report back in service, the IBM cards are forwarded to the police records section unit for follow-up and filing.

The fire-rescue radio system is controlled from a Central Fire Alarm Dispatching Room in the underground center.

This system utilizes two custom built consoles, both connected by wire line to base stations in the EOC and in Gaithersburg and Vernon Place. The system is also tied into the microwave link to control a base station for fire communications in the Damascus area.

Above one console is a map of the county showing the locations of fire companies and above the other, 300 numbered lamps on a display panel. The latter status facility indicates the operating condition of fire and rescue equipment in the county. Vehicles at fires and other emergencies are shown by a red light, vehicles available for service but not in fire houses by a green light and equipment not available by a yellow light. Vehicles ready for service in fire stations are indicated by lights off.

Selective signaling equipment is also incorporated into the system, enabling fire dispatchers to instantly alert volunteer personnel of any one of all of the 16 fire departments and two rescue squads in the county.

MOTRAC mobile radios operating on the two frequencies used in the fire network are installed in 166 vehicles.

During natural disasters and weather emergencies, the EOC is utilized by the Public Work Director and his supervisors to control

(Continued on next page)

Emergency Operating Center

(Continued from page 151)

E, Engine; T, Truck, ladder; A, Ambulance; R, Rescue; S, Squad Trucks; C, Cars; CH, Chief; U, Utility pick up truck; FM, Fire Marshall; FW, Foam Wagon; SU, Special Units; FP, Forest Patrol.

To The Rescue!



"Bridger" Shoulder Line Guns are used by Civil Defense, Police, Sheriffs, Fire Departments & Rescue Squads. It bridges distances instantly to rescue those in distress who cannot be reached in any other way. Squeeze the trigger—and the life line is there.

Descriptive literature on request

Naval Company

Doylestown

Penna.



J. H. Winchell III, Official Photographer, Albany F.D. and F.S.D.

Nassau fire department personnel march in Rensselaer, New York parade with old-time hose reel.

Remarks By G. D. Rich, Director, Office Of Civil Defense, Region Two At Rockville, Maryland Dedication

I am here in a three-fold capacity. I am happy to represent the Secretary of the Army and the Director of Civil Defense. I am also pleased to be here in my own role as Civil Defense Director for this region of the nation.

This Emergency Operating Center does represent an outstanding achievement, and in several respects, it is one of the first buildings of its kind anywhere in the United States. It enables Montgomery County to be sure of staying in business after an enemy attack or after a severe natural disaster such as a hurricane or snow-storm.

It is an achievement in demon-

strating cooperation at all three levels of government—local, state and federal. The existence of this building proves what can be done when the common good is the primary consideration of all concerned.

The 405,000 persons living in Montgomery County and the estimated 995,000 who will live here in the year 2000 are the beneficiaries of this unique facility.

The county's police and fire dispatchers, Public Works radio, Civil Defense Division and all other communications are now operating from here. In a disaster, whether caused by nature or man, they would continue to operate. With them in this same protected building, operating in safety and without interruption, would be all major offices of the Montgomery County Government.

The federal government has provided half the cost of this Emergency Operating Center — \$360,444.96. It has also provided a considerable amount of guidance and knowledge in the scientific and engineering planning necessary to insure that the center will operate under almost unimaginably severe circumstances.

As we look at this building we see still another significance. We

see or should see, that the national Civil Defense Program is not the faltering, head-in-the-sand, unrealistic and unneeded design of dreamy bureaucrats and war-mongering defense officials. It is a program essential to the function of government in emergency and is founded on the ever-present need to protect people in the event of a nuclear war.

Civil Defense in the nation, and in the Montgomery County, made this building possible. We look hopefully to the Montgomery County Council and its staff to continue the strong Civil Defense Program established here more than ten years ago, the program which prompted the Federal Government to pay half the cost of this building.

This Emergency Operating Center brings to Montgomery County a unique ability to survive a severe nuclear attack. This ability represents still another distinction for Montgomery County as it seeks to maintain its long-time reputation as one of the most enlightened and most up-to-date of America's counties.

The post-war age of suburbia and all the staggering challenges of fantastic growth have come to every metropolitan area since 1945. With this Emergency Operating Center, the county has added a new kind of resource in the face of a new kind of challenge, the potentials of the atomic age.

This Center is the life-saving communications link for a community of 400,000 people in an emergency... The fact that this ability is essential will not be debated by those of you who remember names like hurricane Hazel and Hurricane Dianne or dates like February and March 1958 and December of 1960 when Montgomery County was struck by some of the worst snow storms in its history. These were times when Civil Defense mobilized its staff and equipment and co-ordinated operations of the county government until the emergency passed.

We must face some harsh facts of life and we should ask ourselves: What value are all our military weapons and planes and missiles and submarines and bases ringed around our cities if an enemy can explode an atomic bomb in a country field and wipe out the citizens of a city hundreds of miles away?

This does not have to be. The best scientific, industrial and engineering minds have determined through years of intensive study

(Continued on page 154)

(Continued from col. 3, page 152)

overall communications with field men and route crews to hard-hit areas. At the same time, reports radioed from the field are used to maintain an up-to-the-minute status of road conditions. Should daytime weather conditions become severe, immediate radio contact with school principals and school board employees is established to send students home early.

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EMERGENCY OPERATING CENTER DEDICATION SPEECH

(Continued from page 153)

that this nation can survive an atomic attack through availability of fallout shelters. Other nations, including the Soviet Union, have recognized this and are stepping up their programs of building fallout shelters.

This makes sense, because a nation under atomic attack actually would suffer damage to only an extremely small fraction of its land area, **but fallout would spread over virtually the entire nation** for at least a short period of time and, under some conditions, for two weeks. To those who prophesy a post-attack world of black nakedness, shorn of all human life, powerful evidence to the contrary exists. Outside the target areas, in a

nuclear attack, life would go on. The trees and the grass would still be green. Rivers would still flow. Buildings would remain standing. The family car would start up just as quickly as it did before the attack.

Food safe to eat would still be on the grocer's shelves and in local warehouses. This is the atmosphere outside the blast area that we would begin to operate in, following an attack. A large portion of the United States, with its three and one-half million square miles not counting Alaska and Hawaii, would escape damage from a nuclear blast. Therefore, we must have protected emergency centers where your elected officials can op-

erate in an emergency.

Thus, it is difficult to conceive of any attack that could destroy so much of our population that we could **not** continue to function as a nation. This conviction is shared and publicly accepted by our highest national leaders, by President Johnson and Secretary of Defense McNamara, by the Joint Chiefs of Staff, the nation's top-ranking military officials.

There are those among us who question with much fanfare the need for fallout shelters and emergency operating centers like this one. But who questions the need for a strong army, an air force with hundreds of armed nuclear bombers in the air around the world every minute of every day, a navy with polaris submarines patrolling the world with 16 nuclear warheads each? Yet what good would all this power do in resisting an aggressor if our civilian leaders and people are unable to survive the fallout from an enemy's first strike?

The United States does not pursue this policy as a matter of preference. The preference of us all is for a world of peace, free of the need for armies and navies and fallout shelters and bombs. And this has been the reason, advanced by four presidents and both major political parties, that has caused the United States to maintain its position as protector of freedom in the world, through its strong efforts in the United Nations and in seeking to strengthen peace through the noble achievement of 12 months ago, The Nuclear Test Ban Treaty.

But the harsh and unfortunate truth is that this is not a world without armies and navies and bombs and would-be aggressors. It is, for the foreseeable future, a dangerous and unpredictable world, and in this danger there is the great need for a strong defense program, military defense and civil defense.

This July 4th, our nation celebrated the 188th anniversary of the signing of its Declaration of Independence. The author of that historic document told us, "Eternal vigilance is the price of liberty." With a program of strong military and civil defense, achievements represented by the dedication of this Emergency Operating Center, we are maintaining vigilance in safeguarding our American liberty. You are to be commended for being in the foreground in establishing this protecting operating center.



"Mr. Clay — You had the water turned off again."

EXHIBIT E

The following material is found in the sections listed, in the reference file.

1. ANNUAL REPORTS - GOVERNING BODIES

(Excerpts from)

<u>Unit</u>	<u>Coverage</u>
Arlington County, Virginia	1962-1963
District of Columbia	1961-1962
Fairfax County, Virginia	1963-1964
Montgomery County, Maryland	1962
Prince Georges' County, Maryland	1963-1964

2. ANNUAL REPORTS - FIRE DEPARTMENTS

<u>Unit</u>	<u>Coverage</u>
Arlington County, Virginia	1963-1964
City of Alexandria, Virginia	1963
Fairfax County, Virginia	1963
Montgomery County, Maryland	Not available
Prince Georges' County, Maryland	Regular report not available, excerpts from 42nd Annual Convention used 1963
Silver Spring, Maryland	1963
Washington, D. C.	Not available

3. CIVIL DEFENSE PLANS

Arlington County, Virginia	Office of Civil Defense Fiscal Year 1963-64 annual report
Arlington County, Virginia	Excerpts from their plan dealing with state laws
District of Columbia	Title I, Planning Basis - Survival Plan
Fairfax County, Virginia	Emergency Operational Plan for Civil Defense
Montgomery County, Maryland	Local Government Emergency Operations Plan

4. MAPS

Arlington County, Virginia
City of Alexandria, Virginia
Fairfax County, Virginia
Montgomery County, Maryland
Prince Georges' County, Maryland
Washington, D. C.

5. MISCELLANEOUS

Washington Metropolitan Area Council of Fire Chiefs By-Laws
The Citizen's Handbook - County of Fairfax, Virginia
Resolution: For the Establishment of an Administrative Officer for
the Fire Services of Fairfax County, Virginia
Fire Aspects of Civil Defense - Office of Civil Defense
Two newspaper clippings dealing with Prince Georges' County, Maryland
Fire Service Organization and Resources, a paper presented by David
B. Gratz, Fire Chief, Silver Spring, Maryland, at the National Fire
Service Staff and Command School, July 20-31, 1964, College Park,
Maryland
Salary Schedule, Uniformed Force, District of Columbia Fire Department,
7/5/64

6. MUTUAL AID AGREEMENTS

Original plan for Anne Arundal County, Maryland for Forest and Woods
Fire Suppression between the Department of Forests and Parks and the
fire companies

Present plan of above

Agreement between the Maryland Department of Forests and Parks, and
Fort George C. Meade

7. PERSONS INTERVIEWED

Refer back to Exhibit No. A and Section 7 of the reference file

8. TRAINING DATA

University of Maryland Fire Service Extension Firemen's Basic
Training Course - Chapter Six, Fires in Natural Cover Fuels.
Outline for teaching attached

Fire Service Training - University of Maryland

Regulations for Firemen's Training Classes - Fire Service Extension,
University of Maryland